bitter cassava, and baked into small balls which are dropped into the water where they are swallowed by the fish. A fish which has been gullible enough to swallow this fraud soon loses control and floats to the surface where it is captured by the fisherman.

I did not observe nor hear of the use of fish traps or of nets, although these appliances are reported from other parts of the colony.

The fish most commonly used for food are the haimara (*Hoplias macrophthalmus*), huri (*Hoplias malabaricus*), yarrau (*Hypostoma* sp.), low-low (*Silurus* sp.), pirai (*Pygocentrus*), cartabak (*?Tetragonopterus*). The moracot, so well known for its fighting tendencies and flavor in other parts of the colony, is found only in the tidewater portions of the Barama. Hook baits include spiders, calabash pap, cassava bread, and various worms.

Among other food products obtained from the streams are sting-ray (caught on hooks and tasting somewhat like tripe when cooked), small periwinkles or "snails" of two sizes called respectively mari (small) and kue (large), frog eggs.

Vegetable Foods. Every household has its own agricultural field lying at some distance from the house clearing. The slash-and-burn method is used in agriculture, a method which, in the absence of artificial fertilizers, requires the opening up of a new field usually every third year due to the exhaustion of the soil.

I do not intend here to enter into a detailed description of agricultural practices, inasmuch as similar procedures to those followed by the Caribs have been described by Roth, Schomburgk, Farabee, and others. When choosing a spot for a field, the first criterion is good drainage, and for this reason the fields are frequently referred to as "cassava hills." Associated with the topographical position in the problem of drainage is the character of the soil. The proper soil is called "white dirt" and takes its color from the large amount of sand mixed with the loam. First the underbush is cleared away with cutlasses and heaped into piles. Then the trees are cut down with iron axes obtained in trade. For felling large trees with heavily buttressed feet, scaffolds of small logs tied together with bush rope are built ten to fifteen feet above the ground, on which men may stand to do the chopping.

The tree felling is usually done during the rainy season and the movable logs and brush piled into heaps. Some time after the advent of the dry season, the logs and brush are burned, after

1: Gillin E-5 (1932-33) 1936 SR9 Carib SR9

which the crops are planted in the ashes among the stumps and charred logs (Plate 5, *b*). The field is usually ready to burn about three weeks after the start of the dry season and is allowed to burn for about a week. In the planting women assist the men. Two implements are used, the hoe (sambá) of iron, which is obtained in trade, and the digging stick, which is merely a long pole three to four inches in diameter and five to eight feet long with a sharpened end. The latter implement is held in both hands and driven repeatedly into the ground to make a hole in which to plant such things as plantain. The hoe is used for loosening the ground preparatory to planting cassava shoots, maize, and similar crops. Cassava of the "bitter" or "poisonous" variety (*Manihot utilissima*) is the staple vegetable product of the Caribs. It is propagated by inserting young sticks cut from mature cassava plants into the ground at an angle. Each stick must have several shoots or buds and must show milk when it is cut. Cassava growing in the field is known as mainyá; the root of the cassava is called kiédi; and baked cassava bread ready to eat is arépa. After planting, the young cassava is weeded for a few weeks, following which it requires no further care until the roots are ready to be dug, which usually is the case after about nine months. The weeding is done by women and children. Cassava is a perennial which will produce a second crop without further attention. The third crop is usually poor because of exhaustion of the soil.

The roots are pulled up or are dug with hoes by the women, who usually go to the field every two or three days to replenish their supplies. They are placed in walishas (a type of carrying basket) and brought back to the house, where they are first washed free of earth with water brought from the creek in a calabash or pot. Then they are peeled or scraped to remove the bark-like skin (Plate 6, *a*). This process is called ipityali (I scrape cassava). The white peeled roots are then washed again (Plate 7, *a*) and grated (Plate 6, *b*). The graters now used are made of tin perforated with a pattern of concentric circles of small holes punched with a nail (Plate 7, *b*). The obverse surface of the perforated tin is rough and is bent over a log into a convex shape much like a larger edition of the tin nutmeg grater which is used in American kitchens. The graters average about eighteen by eight inches, and when in use are fitted onto the convex surface of a

824 direct plant-to-plant cycling characteristic of the rain forest
241 floral community, energy is diverted for human consumption. The diverse floral species are replaced with species selected to yield food sources. Fields are prepared and maintained in keeping with this use.

242 The soil is selected with regard to its role as a support for the
241 plants. A preferred site is a hillside. The gradient allows for drainage. Also, a mixture of sand and clay will deter the water retention which would rot root crops in predominantly clayey soil. The clay component of this mixed soil protects the seeds and young plants from the full impact of heat from direct sunlight. Only a small field, about one acre, is usually cut at one time. Field shapes tend to be circular. Tall trees are left on the periphery to allow partial shade on the seeds and young plants.

241 The cutting is done to allow burning just before the rainy
[221] seasons that occur from November to January and from May to July.
[132] Planting follows burning. Previously, fire and stone-edged implements alone were used. However, iron-edged tools are now common in
241 [312] the Upper Barama area. Digging sticks for planting seeds remain in
*[77] use.

241 The different cultigens are intermingled, making use of micro-environmental conditions. For example, sugar cane plants may be located to take advantage of a few square feet along a creek bed. Pineapples may be placed in an ash line. Young tobacco plants may be located to be partially shaded by a stump until mature enough to tolerate the sun.